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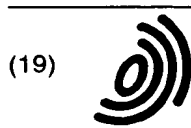
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(11) **EP 1 065 568 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
19.03.2003 Bulletin 2003/12

(51) Int Cl.7: **G03F 7/20**, G02B 5/08,  
G02B 1/10

(43) Date of publication A2:  
03.01.2001 Bulletin 2001/01

(21) Application number: **00305432.7**

(22) Date of filing: **28.06.2000**

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE**  
Designated Extension States:  
**AL LT LV MK RO SI**

(72) Inventors:  
• **Singh, Mandeep**  
Twickenham, TW2 7NR, Middlesex (GB)  
• **Visser, Hugo Matthieu**  
3512 VK Utrecht (NL)

(30) Priority: **02.07.1999 EP 99305283**  
**07.10.1999 EP 99307932**

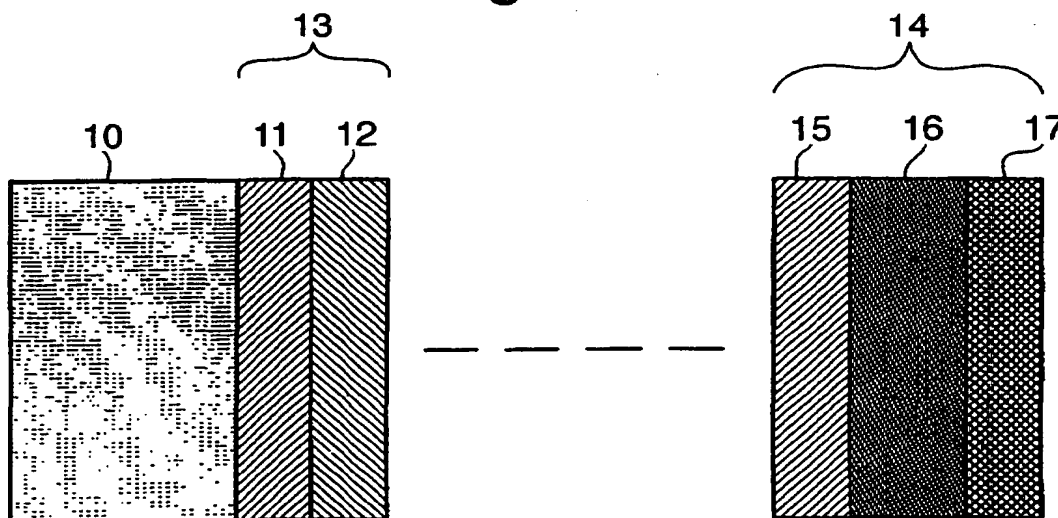
(74) Representative: **Leeming, John Gerard**  
**J.A. Kemp & Co.,**  
14 South Square,  
Gray's Inn  
London WC1R 5JJ (GB)

(54) **EUV-Lithographic projection apparatus comprising an optical element with a capping layer**

(57) A lithographic projection apparatus comprises an optical element such as a multilayered EUV mirror (10,13,14) with protective capping layers (17) of diamond-like carbon (C), boron nitride (BN), boron carbide

(B<sub>4</sub>C), silicon nitride (Si<sub>3</sub>N<sub>4</sub>), silicon carbide (SiC), B, Pd, Ru, Rh, Au, MgF<sub>2</sub>, LiF, C<sub>2</sub>F<sub>4</sub> and TiN and compounds and alloys thereof. The final period (11,12) of a multilayer coating may also be modified (15,16) to provide improved protective characteristics.

**Fig.13.**





European Patent  
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# EUROPEAN SEARCH REPORT

Application Number  
EP 00 30 5432

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 24 January 2003	Examiner Michel, A
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

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24-01-2003

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